tected by leukoagglutination, etc. Another chapter deals with the important question of the relationship between humoral leukocyte antibodies and the homograft reaction. The evidence *pro* and *con* is well covered with no definite conclusion being reached.

This book will be of great value as a reference point for all workers dealing with leukocyte immunology. Although it does not cover the field completely, it is the best summarization, to date, of the highly specialized study of leukocyte antigen-antibody reactions.

CHARLES G. CRADDOCK, M.D.

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RADIATION—Use and control in Industrial Application—Charles Wesley Shilling, M.D., Sc.D., Deputy Director, Division of Biology and Medicine, U. S. Atomic Energy Commission, Washington, D. C. Grune & Stratton, 381 Fourth Ave., New York 16, N. Y., 1960. 223 pages including 13 pages of appendices and 10 columns of index, $6.75.

The author is Deputy Director of the Division of Biology and Medicine of the U. S. Atomic Energy Commission. In this book he attempts to do his duty in necessary indoctrination of the many industrial physicians who will be responsible for radiation hygiene in the rapidly expanding uses of radiation and nuclear reactions. He has managed to get most of the important things into this small book. He has shown admirable restraint in telling the physical foundations, which most authors find so romantic and so satisfying in our relatively exact knowledge of it that they give way to temptation and tell it all over again. He mentions briefly the sources of radiation hazard with reasonable evaluation of their importance. He gives a round picture of biological effects—the acute syndrome, the delayed effects and sequelae and the genetic hazards; with a really brief, well pointed sketch of genetic mechanisms.

A very short chapter on radiation accidents is followed by short notes on 21 accidents and incidents. Control of exposure, licensing, monitoring, barriers and therapy are discussed briefly. The chapters on radiation safety and the work of the health physicist and the role of legislation are a bit fuller.

Instruments and techniques of measurement are handled very briefly indeed, as are the problems of decontamination. No attempt was made to produce a technical handbook.

The disposal of radioactive waste is seen to loom very large, especially from nuclear power. The rapidly expanding uses of radioactive isotopes for control and research are illustrated with some examples. There'll be plenty of problems.

The author mentions nearly everything that should have the attention of an industrial physician. He gives quantitative values where need or curiosity can be anticipated. I find very many small things to quarrel with, yet on second look find most of them only a matter of what aspect is emphasized.

In a few places the author attempts to wrap up in a sentence what would require a goodly paragraph to state fairly in our present state of knowledge and controversy. Examples are relative effects of gamma, beta, alpha and neutron rays and the oxygen effect. In one chapter on basic effects the attenuation by distance and by absorption according to thickness are confused. In relating the effect of accidental large exposures part of the dose is given in r of 80 kv x-rays. This must have been a calculated biologic equivalent of estimated neutron dose, but is not so stated. The damaging fetal dose mentioned is 200r, whereas it is well known that 25r may be effective. The probable statistical fallacy in the reported 5 year life shortening among U. S. radiologists is not cited. A serious typographical error reverses the intended statement about a threshold dose in leukemia induction.

Some statements about protection will be seen by any medical radiologist as unwarranted. Examples: "Every x-ray unit . . . or . . . located underground, in the side of a hill . . ."; ". . . in fluoroscopy, the x-ray tube target should be at least 18 inches from . . . the patient"; ". . . bordering on malpractice is the so-called pediatric 'preventive' fluoroscopic examination of young infants." This last is likely to make some pediatricians' hair stand on end. I think the author overly hopeful about chemical therapeutic agents for radiation injury. He attempts to give the relative effectiveness of lead, concrete and steel all in one statement. He'd better not have tried.

Like everyone else connected with AEC, he calls uranium and plutonium "special nuclear material." Among his general radiologic safety rules appears: "9. All experiments using one microcurie . . . will be conducted in hoods or glove boxes." I wonder if the author would faint to see 150 millicuries of Au-198 injected into a patient's abdomen as she lies in bed.

There is one paragraph that I wish I could rewrite—the one on Psychology and Publicity Problems. In case of an accident "The newspapers will get the information first from 'tips' and will then call the physician to get the 'gory' details. The only safe answer is, 'No comment, call the public relations officer.'" I do think that we ought to be as informative and helpful to newspaper reporters as we can. I also think that the ideal industrial physician makes the ideal public relations officer.

Having combed out all these defects, I'd like to epitomize this book as a valuable view of nearly the whole of an industrial physician's obligatory information about radiation hazards in a space small enough that he will probably read all of it.

R. R. NEWELL, M.D.

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SHAW'S TEXTBOOK OF OPERATIVE GYNAECOLOGY—Second Edition—Revised by John Howkins, M.D., M.S. (London), F.R.C.S. (Eng.), F.R.C.O.G., St. Bartholomew's Hospital, University of London and University of Cambridge. The Williams & Wilkins Company, Baltimore, 1960. 484 pages, $20.00.

In the preface to this second edition Howkins, gynecologist at St. Bartholomew's Hospital, says he has undertaken the task of revision as a gesture of gratitude to his former chief, who at his death bequeathed to him the editorship of future editions. Some chapters have been extensively revised and a few new ones added. It was the editor's purpose to describe only those operative techniques which he and his colleagues consider to be most acceptable and which they have personally found to be useful.

After several introductory chapters dealing rather sketchily with pre-operative study and preparation, anesthesia, and postoperative problems, the major portion of the book is devoted to well illustrated descriptions of all the common gynecological operations and a few uncommon ones. Two short chapters are concerned with operative injuries of bladder, ureter and intestine, as well as the more frequent intestinal lesions encountered in the course of gynecologic surgery. Cesarean section is considered briefly, and there is a chapter by I. G. Williams, a radiotherapist, on radiation for carcinoma of the cervix, endometrium, vagina and ovary. The final page of the text contains directions for the surgical management of cardiac arrest.

This book is a blending of textbook and surgical atlas, but certainly its usefulness in this country will be largely as an atlas. The illustrations by Leslie Caswell are superb examples of the medical illustrator's art and may be recommended to all residents in gynecology and to others interested in the technical details of gynecologic surgery.

CHAS. E. MCLENNAN, M.D.